

**CLAIMS:**

1. A method of communicating in a hierarchical cellular system, said  
2 method comprising the steps of:  
3 determining a timer value which is a function of the duration that a wireless  
4 unit operates within at least a cell of a first layer; and  
5 using said timer value in determining whether said wireless unit is to be  
6 handed off to at least a cell of a second layer.
- 1 2. The method of claim 1 wherein said step of determining comprises:  
2 starting a timer as said wireless unit operates within a first cell of said first  
3 layer; and  
4 stopping said timer after a trigger is detected for handing off said wireless unit  
5 to a second cell of said first layer.
- 1 3. The method of claim 1 wherein said step of determining comprises:  
2 determining an amount of time said wireless unit is within a first cell of said  
3 first layer before being handed off to a second cell of said first layer.
- 1 4. The method of claim 3 wherein said step of determining further  
2 comprises:  
3 using said amount of time said wireless unit is within said first cell as said  
4 timer value.
- 1 5. The method of claim 3 wherein said step of determining further  
2 comprises:  
3 determining said timer value as a function of said amount of time said wireless  
4 unit is within said first cell.

- 1        6. The method of claim 5 wherein said step of determining further  
2 comprises:  
3              determining said timer value as a function of amounts of time said wireless  
4 unit is within cells of said first layer.
- 1        7. The method of claim 1 wherein said step of using comprises:  
2              comparing said timer value to a first threshold; and  
3              handing off said wireless unit to a second layer depending on said comparison.
- 1        8. The method of claim 1 wherein said step of using further comprises:  
2              comparing said timer value to a first threshold; and  
3              handing off to a layer of smaller cells if said timer value is greater than said  
4 first threshold.
- 1        9. The method of claim 8 wherein said step of using further comprises:  
2              comparing said timer value to a second threshold; and  
3              handing off to a layer of larger cells if said timer value is less than said second  
4 threshold.
- 1        10. The method of claim 9 wherein said step of using further comprises:  
2              remaining in a current layer if said timer value is less than said first threshold  
3 and greater than said second threshold.
- 1        11. An inter-layer handoff system for communicating in a hierarchical  
2 cellular system, said system comprising:  
3              processing circuitry configured to determine a timer value which is a function  
4 of the duration that a wireless unit operates within at least a cell of a first layer of said  
5 hierarchical cellular system and to use said timer value in determining whether said  
6 wireless unit is to be handed off to at least a cell of a second layer.

1        12. The system of claim 11 wherein said processing circuitry is configured  
2 to start a timer as said wireless unit operates within a first cell of said first layer and to  
3 stop said timer after a trigger is detected for handing off said wireless unit to a second  
4 cell of said first layer.

1        13. The system of claim 11 wherein said processing circuitry is configured  
2 to determine an amount of time said wireless unit is within a first cell of said first  
3 layer before being handed off to at least a second cell of said first layer.

1        14. The system of claim 13 wherein said processing circuitry configured to  
2 use said amount of time said wireless unit is within said first cell as said timer value.

1        15. The system of claim 13 wherein said processing circuitry is configured  
2 to determine said timer value as a function of said amount of time said wireless unit is  
3 within said first cell.

1        16. The system of claim 15 wherein said processing circuitry is configured  
2 to determine said timer value as a function of amounts of time said wireless unit is  
3 within cells of said first layer.

1        17. The system of claim 11 wherein said processing circuitry is configured  
2 to compare said timer value to a first threshold and to handoff said wireless unit to a  
3 second layer depending on said comparison.

1        18. The system of claim 11 wherein said processing circuitry is configured  
2 to compare said timer value to a first threshold and handoff to a layer of smaller cells  
3 if said timer value is greater than said first threshold.

1           19. The system of claim 18 wherein said processing circuitry further  
2 configured to compare said timer value to a second threshold and handoff to a layer of  
3 larger cells if said timer value is less than said second threshold.

1           20. The system of claim 19 wherein said processing circuitry further  
2 configured to remain in a current layer if said timer value is less than said first  
3 threshold and greater than said second threshold.